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(71) Applicant *(for all designated States except US)*: **GRIFFITH UNIVERSITY** [AU/AU]; Kessels Road, Nathan, QLD 4111 (AU).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **HARRISON, Barry, H.** [AU/AU]; Facaulty of Engineering and, Information Technology, Griffith University, Kessels Road, Nathan, QLD 4111 (AU). **DIMITRIJEV, Sima** [AU/AU]; Facaulty of Engineering and, Information Technology, Griffith University, Kessels Road, Nathan, QLD 4111 (AU).

(74) Agent: **MISCHLEWSKI, Darryl**; I P Strategies, P.O. Box 1254, Camberwell, VIC 3124 (AU).

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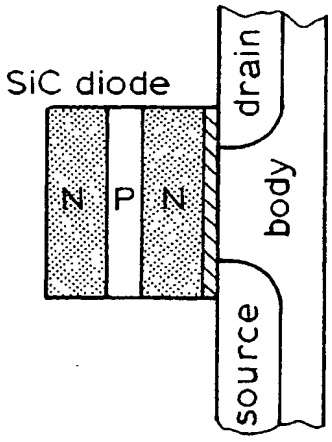
(54) Title: MEMORY CELL



(57) Abstract: A one-transistor (1T) NVRAM cell that utilizes silicon carbide (SiC) to provide both isolation of non equilibrium charge, and fast and non destructive charging/discharging. To enable sensing of controlled resistance (and many memory levels) rather than capacitance, the cell incorporates a memory transistor that can be implemented in either silicon or Sic. The 1T cell has diode isolation to enable implementation of the architectures used in the present flash memories, and in particular the NOR and the NAND arrays. The 1T cell with diode isolation is not limited to SiC diodes. The fabrication method includes the step of forming a nitrided silicon oxide gate on the Sic substrate and subsequently carrying out the ion implantation and then finishing the formation of a self aligned MOSFET.

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